[0024] a plurality of wireless telemetry units, each telemetry unit positioned within an in-ground housing proximate at least one of the plurality of sensors and coupled thereto to receive output signals corresponding to sensed conditions; and

[0025] a server to communicate with the wireless telemetry units via a wireless network, to receive data representative of the sensed conditions.

[0026] Each wireless telemetry unit may be free of reliance on an external power source.

[0027] The server may comprise program code to process the received data representative of the sensed conditions according to a set of stored rules accessible to the server. Processing of the received data may include accessing stored historical data received from the wireless telemetry units and determining whether an event of interest appears to be occurring or is likely to occur in relation to the at least one conduit. The server may comprise an interface component to communicate with a client device in relation to the received data representative of the sensed conditions.

[0028] Some further embodiments relate to a fluid monitoring method, comprising:

[0029] providing a wireless telemetry unit in-ground above a buried fluid conduit, the wireless telemetry unit coupled to receive output signals from at least one sensor arranged to sense at least one condition of fluid in the fluid conduit, the at least one sensor relying on power from the wireless telemetry unit;

[0030] selectively providing power from the wireless telemetry unit to the at least one sensor;

[0031] when the at least one sensor is powered, receiving at the wireless telemetry unit output signals from the at least one sensor indicative of at least one fluid condition in the fluid conduit; and

[0032] discontinuing power from the wireless telemetry unit to the at least one sensor after the receiving.

[0033] The providing power may be selected to occur at predetermined intervals. The wireless telemetry unit may be free of reliance on an external power source. In the method, the wireless telemetry unit may be positioned in an in-ground lockable housing accessible from surface level.

[0034] The method may further comprise transmitting a message from the wireless telemetry unit to a remote server, the message containing data corresponding to, derived from or otherwise based on the output signals from the at least one sensor.

[0035] The method may further comprise waiting a predetermined time between the providing power and the receiving output signals to allow the at least one sensor to become ready to provide the output signals. The method may further comprise the wireless telemetry unit processing the output signals to determine whether an alarm condition exists. The method may further comprise the wireless telemetry unit sending an alarm message to a remote network node if an alarm condition is determined to exist. The remote network node may include a server system and/or a mobile client communication device.

[0036] Some embodiments relate to a fluid monitoring method, comprising:

[0037] receiving at a server messages from a plurality of wireless telemetry units communicatively coupled to a plurality of sensors, at least one sensor coupled to each wireless telemetry unit being positioned to sense a condition of at least one buried fluid conduit, the messages comprising data indicative of one or more of the sensed conditions; and

[0038] processing the message data to infer trends and/or determine an event of interest in relation to the at least one buried fluid conduit.

[0039] The method may further comprise:

[0040] processing the message data to determine whether an alarm, fault or special condition is indicated in relation to one or more conditions of the at least one buried fluid conduit;

[0041] transmitting a notification message to at least one predetermined notification recipient if the server determines that an alarm, fault or special condition is indicated.

[0042] The event of interest may comprise a fluid theft or a fluid leak, for example.

BRIEF DESCRIPTION OF THE DRAWINGS

[0043] Embodiments are described in further detail below, by way of example, with reference to the accompanying drawings, in which:

[0044] FIG. **1** is a schematic representation of apparatus for fluid monitoring;

[0045] FIG. **2** is a block diagram showing a telemetry unit in further detail;

[0046] FIG. **3** is a block diagram of a wirelessly networked fluid monitoring system according to some embodiments;

[0047] FIG. **4** is a flowchart of a method of fluid monitoring employed by the **10** telemetry unit;

[0048] FIG. **5** is an example plot of pressure sensed at a number of different locations in a fluid conduit network, illustrating variations in sensed fluid pressure over time;

[0049] FIG. **6** is an example display of the fluid pressure sensors plotted in FIG. **5**, overlaid on a geographic image to indicate their locations; and

[0050] FIG. **7** is a flowchart of a method of fluid monitoring using one or more of the wirelessly networked fluid monitoring apparatus of FIG. **1**.

DETAILED DESCRIPTION

[0051] Described embodiments relate generally to wirelessly networked fluid monitoring methods, systems, installations and apparatus. In particular, some embodiments relate to such methods, systems, installations and apparatus comprising a sub-surface (e.g. in-ground) housing to house a wireless telemetry unit proximate a sub-surface (e.g. buried) fluid conduit and cooperating with at least one sensor to sense at least one condition of fluid in the fluid conduit. Data from the sensed conditions can then be used to automatically generate alarms or other notifications, for example.

[0052] Referring in particular to FIG. **1**, there is shown an installation **100** comprising a housing **110** positioned in ground **115** and extending downwardly from ground level to a level at or above a buried fluid conduit **135**. At its uppermost extent, housing **110** is preferably positioned to be substantially flush with, or slightly sunken relative to, ground level.

[0053] Housing **110** houses a wireless telemetry unit **120** for monitoring at least one condition of fluid in the conduit **135** using one or more sensors **130**, **131**. The one or more sensors **130**, **131** are electrically and communicatively coupled to the telemetry unit **120** via a suitable cable **125**, which may contain separate power and signalling conduits. The one or more sensors **130**, **131** rely on the provision of power from telemetry unit **120** via cable **125** in order to function. Telemetry unit **120** only turns on power to the one or more sensors **130**, **131** when it is desired to take a sensor reading in relation to fluid conditions in the conduit **135**, and